

## Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

### ***Allowable Subject Matter***

Applicant acknowledges with appreciation that the Examiner has indicated that the subject-matter of claims 8 and 31 would be allowable if re-written in independent form.

### ***Claim Rejections - 35 USC § 102 and § 103***

Claims 1, 2, 6, 9, 23-25, 29 and 32 have been rejected as being anticipated by U.S. Patent No. 6,810,138 (Schanz). Withdrawal of the rejections is respectfully requested for at least the following reasons.

The subject matter of claims 1 and 24 is not anticipated by Schanz. Nevertheless, in order further to emphasize the distinction over the disclosure of Schanz, claims 1 and 24, as the independent claims, are being amended to define that each point of a plurality of points which define the captured image of the printing screen are treated in turn.

Claims 1 and 24 are now directed respectively to an inspection system and method, which require *inter alia* the capturing of at least one pair of corresponding regions of a printing screen and a workpiece as printed using the printing screen, and the processing of the at least one pair of images to determine, in turn, for each of a plurality of points defining the image of the printing screen, whether the point is of aperture, and, where the point is of aperture, determine whether the corresponding point of the corresponding image of the workpiece, as defined by a corresponding plurality of points, is of deposit.

It is accepted that Schanz discloses a system and method in which images are captured from both a printing screen (3) and a printed circuit board (5), as a workpiece, and indeed that these images are pixelated. However, Schanz makes no disclosure or suggestion whatsoever of determining, *in turn*, for *each* of a plurality of points defining the image of the printing screen (3), whether the point is of aperture, and, where the point is of aperture, determining whether the corresponding point of the corresponding image of the workpiece, as defined by a corresponding plurality of points is of deposit, in the manner as required by claims 1 and 24.

This determination for each point in turn, that is, on a point-by-point basis or pixel-by-pixel basis in a pixelated image, as required by claims 1 and 24, is not disclosed or suggested by Schanz.

Contrarily, in Schanz, an actual pattern is compared with a previously-recorded reference pattern of the printing screen (3) [column 6, lines 36 to 44]. The actual pattern is the solder paste application on the printed circuit board (5) [column 6, lines 42 and 43]. The reference pattern represents information on the position and geometry of stencil openings in the printing screen (3), which is previously recorded in a "teach-in method" [column 6, lines 19 to 24], which "teach-in method" provides for recording of the reference pattern from a plurality of test patterns prior to initial use of the printing screen (3) [column 1, line 64 to column 2, line 8].

In Schanz, the test patterns define "...where and how..." the check on the application of solder paste is to be carried out, in particular defining "...the coordinates, size and shape..." of the solder paste regions to be applied [column 1, lines 29 to 35], and, as a pixelated image would not provide any definition on where and how a check was to be made, the reference pattern manifestly cannot be a pixelated image.

Furthermore, Schanz discloses that there are two methods for obtaining test patterns, one of which is to obtain the test patterns from the CAD data for the printing screen (3) [column 1, lines 35 to 42]. Given that the reference pattern can be obtained from CAD data, which is not a pixelated image, this further clearly demonstrates that the reference pattern is not a pixelated image, but rather a definition of the coordinates, size and shape of the apertures in the printing screen (3). This comparison of an actual pattern and the reference pattern in Schanz is manifestly not the determination as required by claims 1 and 24, that is, a determination, *in turn*, for *each* point of the plurality of points which define the image of the printing screen (3), but of the patterns *in toto*, that is, the reference and actual patterns.

Indeed, the mode of operation of the system and method of Schanz is quite apparent from a reading of the independent claims of Schanz. These claims clearly describe the mode of operation as being the comparison of reference and actual patterns. Moreover, the mode of operation of the system and method of Schanz is manifest from the very fact that a reference pattern has first to be recorded for the printing screen (3) in a "teach-in method". If the mode of operation of the system and method of Schanz were, as alleged by the Examiner, that of capturing corresponding images of the printing screen (3) and the printed circuit board (5) and then effecting a point-by-point determination of the captured images in the manner as required by claims 1 and 24, there would be absolutely no need for a reference pattern.

This notwithstanding, the subject-matter of claims 1 and 24 is further significantly distinguished from the disclosure of Schanz in requiring that only where a point in the image of the printing screen is determined to be of aperture is a determination made as to whether the corresponding point in the corresponding image of the workpiece is of deposit. Such a mode of operation is manifestly not disclosed or suggested by Schanz. Notwithstanding the absence of any teaching in Schanz of a point-by-point determination, there is no suggestion in Schanz of other than the comparison of the entire reference and actual images.

As disclosed in the present application [page 43, final paragraph], by referencing points in the image of the workpiece only where the corresponding points in the image of the printing screen are determined to be of aperture and not for all points in the image of the printing screen, the image processing is much simplified, and this simpler image processing significantly decreases inspection times, allowing for the inspection of a greater number of inspection sites, and also avoids the need for prior recordal of a reference pattern in a "teach-in method". In summary, it is submitted that the subject-matter of claims 1 and 24 is patentably distinguished over the disclosure of Schanz.

The dependent claims recite still further features of inspecting deposits not found in a combination similar to that claimed. Inasmuch as the dependent claims are allowable for at least the same reasons as the claims from which they depend, the Examiner's comments in respect thereof need not be addressed and this should not be construed to be an acquiescence in the contentions made by the Examiner.

### ***Conclusion***

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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